

REMARKS

The Office Action of July 13, 2007, has been carefully considered.

The renumbering of the claims has been noted. Claims 15 through 29 are set forth above.

Claims 28-29 have been rejected under 35 USC 112, second paragraph, as being indefinite in the recitation of the optional mineral powder. Claim 28 has now been amended to remove the term "optionally" from the inert mineral powder and recites the step of forming the powder premix of at least one strongly reducing metal and the inert mineral powder.

Withdrawal of this rejection is requested.

Claims 15, 17, 18 and 19 have been rejected under 35 USC 102(b) over Meacock, II et al. Claim 16 has been rejected under 35 USC 103(a) as obvious over Meacock II et al.

The invention is directed to a powder product for the protection of centrifugal casting molds used to manufacture cast iron pipes, comprising a mixture of at least one inoculating alloy, at least one strongly reducing metal that is volatile at the temperature of the liquid cast iron, and optionally, an inert mineral powder. As is evident from both Claims 15 and 28, the invention is thus a mixture of powders, one of which is an inoculating alloy, and another of which is a strongly reducing metal.

The Meacock II, et al patent is directed to a method for forming a brake element comprising coating a mold surface with a nodularizing agent and pouring molten iron onto the coated mold surface.

As disclosed at column 3, lines 34-41, "suitable nodularizing agents include, but are not necessarily limited to, iron-containing agents, such as ferrosilicon alloys, containing iron, calcium, magnesium and silicon... In a

preferred embodiment of the invention, a combination of a ferrosilicon alloy and magnesium agents is used." Because magnesium is known to be a strongly reducing metal, it is this disclosure which is alleged to anticipate the invention.

However, this disclosure only anticipates the invention is the magnesium is in a form in which it is volatile at the temperature of liquid cast iron. Applicant submits that this is not the case.

The term "nodularizing" as applied to cast iron refers to a process for reducing the amount of sulfur in the iron in order to allow as much as possible for the precipitation of graphite in the form of spheroidal graphite. This is accomplished by introducing into the cast iron specific chemical reactants which react with the sulfur, thus slightly changing the chemical balance of the cast iron in favor of the formation of more spheroidal graphite. Reactants used for this purpose include magnesium and calcium.

In order to nodularize a melt, the magnesium and calcium must be introduced into the bulk of the melt.

If magnesium and calcium in volatile form were to be introduced as mold coatings (as in the claimed invention), they would immediately vaporize when exposed to the molten iron. *Consequently, these elements would not penetrate into the bulk of the melt and would not nodularize the cast iron.* This is a reason why calcium and magnesium, when used as nodularizing agents, are introduced in a form in which the calcium and magnesium are not free and does not vaporize. While Meacock II, et al does not specify how the magnesium agents are provided with the ferro-silicon alloy, it follows that the magnesium must be introduced in a non-volatile form, as known to those of ordinary skill in the art.

The purpose of Meacock II, et al is to coat the mold with

a nodularizing agent in order to nodularize a portion of the cast iron, while another portion of the cast iron will not have been nodularized. In this manner, Meacock II, et al obtains a piece of cast iron which is ductile on the edges and fragile at the center. With the nodularizing agent coating the mold, the magnesium agent is intended to and will penetrate into the cast iron in order to accomplish nodularizing; it will not evaporate.

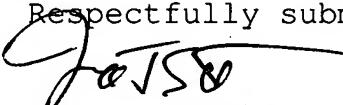
According to the invention, it is the object to provide magnesium in the form in which it evaporates, and is intended not to penetrate into the bulk of the melt, and has no nodularizing effect. Consequently, the composition of the invention in which a reducing metal is present in a free and volatile form cannot be used to nodularize a melt as is done according to Meacock II, et al. Conversely, the inoculant of the claimed invention is intended to protect the melt against pinholes, and not to nodularize the melt which generally will have previously been nodularized.

Withdrawal of these rejections is requested.

The allowability of Claims 20-27 has been noted. In addition, Claims 28 and 29 have not been rejected over prior art.

In view of the foregoing amendments and remarks, Applicant submits that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,


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